~~Kauzlarich~~

Scientific
CONTROL LABORATORIES, INC.
TESTING • RESEARCH • CONSULTING

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CHICAGO, ILL. 60623
(312) 254-2406

17663

REPORT TO: Ashland Chemical Company
4333 Transworld Road
Schiller Park, IL 60176

ATTENTION: Laura

ORDER NO.: M1992

REPORT NO.: 5-379

SPECIFICATION NO.:

RECEIVED: 1-25-82

TYPE TEST: Waste Analysis

REPORTED: 3-2-82

IDENTIFICATION OF MATERIAL

One (1) sample sludge identified as: Spent Copper Strip Solution
ARROW GEAR

The sample was analyzed in accordance with "Test Methods For The Evaluation of Solid Waste, Physical/Chemical Methods SW-846 USEPA." The purpose of the testing was to obtain the necessary information to fill our the CHEMICAL WASTE MANAGEMENT PROFILE SHEET.

4. WASTE NAME Spent Copper Strip Solution
5. PROCESS GENERATING WASTE
6. WASTE CHARACTERISTICS:
   A. BILAYERED ____ MULTILAYERED ____ NONE XX
   B. PHYSICAL STATE AT 70°F: SOLID ____ SEMISOLID ____ LIQUID XX
   C. % TOTAL SOLIDS 11.2 SUSPENDED SOLIDS 0.4 % DISSOLVED SOLIDS 10.8
   D. SPECIFIC WEIGHT IN 9.2 LB/GAL
   E. pH 8.97 (Based on ____ AS % Not Required
   F. FLASH POINT (CLOSED CUP) greater than 200°F
   G. VAPOR PRESSURE (mmHg at 25°C) 20
   H. BTU PER LB: Negligible ASH CONTENT% 8.8
   I. CHARACTERISTIC COLOR Blue ODOR Ammonia
   J. HALOGENATED No SULFONATED No
   K. ALPHA RADIATION AS pCi/l Not Applicable
7. WASTE COMPOSITION:
   A. ORGANIC COMPONENTS
   Oil 900 ppm
   PRESENCE OF PESTICIDES Not Applicable

Ashland Chemical Company
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March 2, 1982
Lab. No. 5-379

B. HEAVY METALS (ppm)	TOTAL	LEACHABLE
Silver	*1.0	Not Required
Arsenic	*0.1	Not Required
Barium	*0.1	Not Required
Cadmium	*1.0	Not Required
Chromium	1.4	Not Required
Copper	51,400.	32,700.
Mercury	*0.001	Not Required
Nickel	24.4	Not Required
Lead	3.4	Not Required
Selenium	*0.1	Not Required
Zinc	4.1	Not Required
OTHER Iron	18.2	Not Required

C. INORGANIC COMPONENTS (ppm)

Total Cyanide	*0.1	Water 87%
Free Cyanide	Not Required	Ammonia 30,300 ppm
Sulfide	*2.0	
Bisulfite	*1.0	AS
Sulfite	*1.0	AS

*Denotes less than .

Respectfully submitted,

SCIENTIFIC CONTROL LABORATORIES, INC.

By Frank Altmayer

FA:ch
2c

9. REGULATORY CLASSIFICATION OF WASTE

THE FOLLOWING INFORMATION IS PROVIDED BASED ON OUR INTERPRETATION OF THE REGULATIONS AND IS MEANT TO BE A GUIDE. PLEASE REVIEW THIS INFORMATION FOR ACCURACY AND COMPLETE ALL LINES THAT HAVE BEEN LEFT BLANK.

A. IS THIS WASTE A "HAZARDOUS MATERIAL" AS DEFINED BY REGULATIONS OF THE U.S. DEPARTMENT OF TRANSPORTATION PURSUANT TO THE HAZARDOUS MATERIALS TRANSPORTATION ACT? Yes (SEE 49 CFR 172.101 AND 173 FOR "HAZARDOUS MATERIALS" LIST AND CHARACTERISTICS.) IF SO, PLEASE ADVISE OF THE FOLLOWING:

(1) CORRECT SHIPPING DESCRIPTION: Hazardous Waste N.O.S. Liquid

(2) HAZARD CLASS(ES): ORM-E

(3) MATERIAL I.D. NO.(S) NA9189

B. DOES THIS WASTE CONTAIN ANY "HAZARDOUS SUBSTANCE" AS DEFINED BY REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION 311 OF THE CLEAN WATER ACT? Yes (SEE 40 CFR 117 FOR "HAZARDOUS SUBSTANCES" AND CATEGORIES.) IF SO, PLEASE ADVISE OF THE FOLLOWING:

(1) THE NAMES OF EACH HAZARDOUS SUBSTANCE PRESENT IN THE WASTE, THE HAZARD CATEGORY (X, A, B, C OR D) AND THE APPROXIMATE CONCENTRATION OF THE SUBSTANCE BY WEIGHT IN THE WASTE:

Ammonia B 3%

(ATTACH ADDITIONAL PAGES IF NECESSARY)

C. IS THIS WASTE A "HAZARDOUS WASTE" AS DEFINED BY REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION 3001 OF THE RESOURCE CONSERVATION AND RECOVERY ACT? Yes (SEE 40 CFR, PART 261 FOR WHAT IS A "HAZARDOUS WASTE.") IF SO, STATE:

(1) THE USEPA HAZARDOUS WASTE NUMBER(S): F009

(2) DO YOU CLAIM TO BE A SMALL QUANTITY GENERATOR? _____ (SEE 40 CFR 261.5.)

D. IS THIS WASTE A "HAZARDOUS WASTE" AS DEFINED BY THE ENVIRONMENTAL REGULATORY AGENCY IN YOUR STATE? Yes IF SO, STATE WHY IT IS SO DEFINED AND ANY STATE HAZARDOUS WASTE CODE NUMBERS ASSIGNED: Toxicity

10. IS THE INFORMATION PROVIDED IN SECTIONS 6-9 BASED UPON LABORATORY ANALYSIS OF THE WASTE MATERIAL? Yes IF SO, PLEASE ADVISE OF THE DATE OF THE MOST RECENT ANALYSIS: 2-26-82

11. HAVE YOU OBTAINED TOXICITY STUDIES OF THIS WASTE STREAM? No IF SO, PLEASE ATTACH A COPY OF THE RESULTS.

Ashland

SALES		CODE
ASH	21	Nº 0234

WASTE PROFILE SHEET CODE

GENERATOR'S WASTE MATERIAL PROFILE SHEET

GENERAL DIRECTIONS: In order for us to determine whether we can lawfully, safely and environmentally transport, store, treat or dispose of your waste stream, we must ask certain information about your waste. All of the information we seek is necessary, for our purposes and yours. Be complete in your answers: if your response is "none," so indicate. Answers must be in ink or typewritten. Information you provide will be maintained in strictest confidence. Please make a copy of this form for your records, returning the original to the location indicated below.

THIS FORM AND ANY SUPPLEMENTAL INFORMATION SHOULD BE RETURNED TO:

Ashland Chemical Company
4333 Transworld Road
Schiller Park, IL 60176

1. GENERATOR NAME: Arrow Gear
2. GENERATING FACILITY NAME/ADDRESS/USEPA FACILITY I.D. NUMBER (IF ANY): _____
3. COMPANY CONTACTS:

GENERAL	_____	TITLE	_____	PHONE	_____
	_____	TITLE	_____	PHONE	_____
TECHNICAL	_____	TITLE	_____	PHONE	_____
	_____	TITLE	_____	PHONE	_____

4. WASTE NAME: Spent Copper Strip Solution
5. PROCESS GENERATING WASTE: _____
6. WASTE CHARACTERISTICS:
   - A PHASES/LAYERS: BILAYERED ☐ MULTILAYERED ☐ NONE ☒
   - B. PHYSICAL STATE AT 70°F: SOLID ☐ SEMI-SOLID ☐ LIQUID ☒ POWDER ☐ OTHER: _____
   - C SOLIDS: TOTAL (%): 11.2 TOTAL DISSOLVED (%): 10.8
   - D. SPECIFIC WEIGHT (AS ≈ PER UNIT): 9.2 lbs/gal
   - E. pH 8.97 (Show the following as range of %)

AS: H_2SO_4	- 0 %	H_3PO_4	- 0 %
HCl	- 0 %	NaOH	- 0 %
HF	- 0 %	NH_4OH	- 0 %
HNO_3	- 0 %	$Ca(OH)_2$	- 0 %
OTHER ___	- ___ %	___	- ___ %
___	- ___ %	___	- ___ %

   - F FLASH POINT: greater than 200 °F (CLOSED CUP TEST ONLY)
   - G VAPOR PRESSURE (mm of Hg at 25°C): 20
   - H BTU PER #: Negligible ASH CONTENT: 8.8 %
   - I CHARACTERISTIC COLOR: Blue DISTINCTIVE ODOR: Ammonia
   - J HALOGENATED? NO % SULFONATED? No %
   - K. ALPHA RADIATION AS pCi/l: Not Applicable

7. WASTE COMPOSITION:

A. ORGANIC COMPONENTS (WITH RANGES — INDICATE WHETHER % OR ppm)

Oil	900 ppm		—
	—		—
	—		—
	—		—

(ATTACH ADDITIONAL PAGES IF NECESSARY)

DOES THIS WASTE CONTAIN ENDRIN, LINDANE, METHOXYCHLOR, TOXAPHENE, 2,4-D, 2,4,5-TP SILVEX, OR ANY OTHER ORGANIC COMPOUNDS LISTED BY USEPA AT 40 CFR 261.24? Not App IF SO, PLEASE NOTE ABOVE.

B. HEAVY METALS (WITH ppm RANGES): *Denotes less than

	TOTAL	TOTAL LEACHABLE		TOTAL	TOTAL LEACHABLE
Ag	*1.0	Not Required	Hg	*0.001	Not Required
As	*0.1	Not Required	Ni	24.4	Not Required
Ba	*0.1	Not Required	Pb	3.4	Not Required
Cd	*1.0	Not Required	Se	*0.1	Not Required
Cr	1.4	Not Required	Zn	4.1	Not Required
Cu	51,400.	32,700	Other (ATTACH ADDITIONAL PAGES)		

(IF YOU HAVE DETERMINED TOTAL LEACHABLES USING USEPA'S "EP TOXICITY TEST PROCEDURE" — AT 40 CFR, PART 261, APPENDIX II — SO INDICATE BY MARKING "EP" AFTER THE RESULT SHOWN ABOVE.)

C. INORGANIC COMPONENTS (WITH % RANGES): OTHER

TOTAL CYANIDE	*0.1 ppm	Water	87.%
FREE CYANIDE	Not Required	Ammonia	30,300 ppm
SULFIDE AS:	*2.0 ppm	Iron	18.2 ppm
BISULFITE AS:	*1.0 ppm		— %
SULFITE AS:	*1.0 ppm		— %

(ATTACH ADDITIONAL PAGES IF NECESSARY)

D. DOES THIS WASTE STREAM CONTAIN BIOLOGIC MATERIALS, PATHOGENS, OR ETIOLOGICAL AGENTS? No IF SO, ATTACH ADDITIONAL PAGES DESCRIBING SUCH MATERIALS.

E. IS THE WASTE A PESTICIDE OR PRODUCED BY A PESTICIDE MANUFACTURING PROCESS? No
IF SO, INDICATE WHETHER IT CONTAINS:

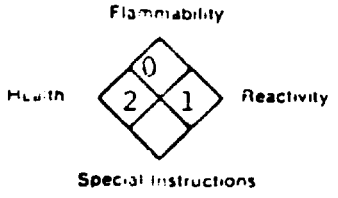
- ☐ ORGANOPHOSPHATES — CONTAINING SULFUR ☐ YES ☐ NO
- ☐ CARBAMATES
- ☐ CHLORINATED HYDROCARBONS

8. HAZARDOUS COMPONENTS AND CHARACTERISTICS

A. HAZARDOUS PROPERTIES (INSERT NUMBER CODES PER INSTRUCTIONS ON LAST PAGE)

(1) TOXICITY RATING: INHALATION 2 DERMAL 1 ORAL 2

(2) HAZARD IDENTIFICATION SYSTEM:



B. LIST ANY OTHER ACUTE OR CHRONIC HAZARDS ASSOCIATED WITH OR ALLEGED TO BE ASSOCIATED WITH HUMAN CONTACT WITH OR EXPOSURE TO THE WASTE:

SEE ATTACHED

9. REGULATORY CLASSIFICATION OF WASTE

A. IS THIS WASTE A "HAZARDOUS MATERIAL" AS DEFINED BY REGULATIONS OF THE U.S. DEPARTMENT OF TRANSPORTATION PURSUANT TO THE HAZARDOUS MATERIALS TRANSPORTATION ACT? _____ (SEE 49 CFR 172.101 AND 173 FOR "HAZARDOUS MATERIALS" LIST AND CHARACTERISTICS.) IF SO, PLEASE ADVISE OF THE FOLLOWING:

(1) CORRECT SHIPPING DESCRIPTION: _____

(2) HAZARD CLASS(ES): _____

(3) MATERIAL I.D. NO.(S) _____

B. DOES THIS WASTE CONTAIN ANY "HAZARDOU[illegible] S OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSU[illegible] ACT? _____ (SEE 40 CFR 117 FOR "HAZARDOUS SUBSTAN[illegible] IVISE OF THE FOLLOWING:

(1) THE NAMES OF EACH HAZARDOUS SUBST[illegible] D CATEGORY (X, A, B, C OR D) AND THE APPROXIMATE CON[illegible] N THE WASTE:

_____ _____

_____ _____

_____ _____

(ATTACH ADDITIONAI[illegible]

STAN: FOUND THIS IN A FILE

YOU DECIDE IF YOU WANT TO KEEP FOR PAST REFERENCE. DAVE

C. IS THIS WASTE A "HAZARDOUS WASTE" AS D[illegible] IRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION[illegible] D RECOVERY ACT? _____ (SEE 40 CFR, PART 261 FOR WHAT[illegible]

(1) THE USEPA HAZARDOUS WASTE NUMBER(S;

(2) DO YOU CLAIM TO BE A SMALL QUANTITY G[illegible] 0 CFR 261.5.)

D. IS THIS WASTE A "HAZARDOUS WASTE" AS DEF[illegible] AGENCY IN YOUR STATE? _____ IF SO, STATE WHY IT IS SO DEFINED AND ANY STATE HAZARDOUS WASTE CODE NUMBERS ASSIGNED: _____

10. IS THE INFORMATION PROVIDED IN SECTIONS 6-9 BASED UPON LABORATORY ANALYSIS OF THE WASTE MATERIAL? _____ IF SO, PLEASE ADVISE OF THE DATE OF THE MOST RECENT ANALYSIS: _____

11 HAVE YOU OBTAINED TOXICITY STUDIES OF THIS WASTE STREAM? _____ IF SO, PLEASE ATTACH A COPY OF THE RESULTS.

12. QUANTITY/SHIPPING REQUIREMENTS:

ANTICIPATED VOLUME IS: _____

GALLONS ☐ TONS ☐ CUBIC YARDS ☐ DRUMS ☐ OTHER ☐ _____

PER DAY ☐ WEEK ☐ MONTH ☐ YEAR ☐ ONE TIME ☐

TRANSPORTATION EQUIPMENT REQUIRED: _____

SERVICE/SCHEDULING REQUIREMENTS _____

GENERATOR'S AUTHORIZED SIGNATORY Robert W. Podawski TITLE Buyer 2 DATE 3-8-82

CONFIDENTIALITY AGREEMENT _____

as consideration for the Generator's release of the above information, and any other supplemental data provided, agrees to treat such information as confidential property and will not disclose such information to others except as is required by law, and in such circumstances only after first giving notice to the Generator

By _____
Name

_____
Title

COPPER COMPOUNDS. As the sublimed oxide, copper may be responsible for one form of metal fume fever. Inhal of copper dust has caused, in animals, hemolysis of the red blood cells, deposition of hemofuscin in the liver and pancreas, and injury to the lung cells; injection of the dust has caused cirrhosis of the liver and pancreas, and a condition closely resembling hemochromatosis, or bronzed diabetes. However, considerable trial exposure to copper compounds has not resulted in such disease.

As regards local effect, copper chloride and sulfate have been reported as causing irr of the skin and conjunctivae which may be on an allergic basis (Section 9). Cuprous oxide is irr to the eyes and upper respiratory tract. Discoloration of the skin is often seen in persons handling copper, but this does not indicate any actual injury from copper. There is an excess of cancer cases in the Cu smelting industry. [*102*]

In man the ingestion of a large quantity of copper sulfate has caused vomiting, gastric pain, dizziness, exhaustion, anemia, cramps, convulsions, shock, coma and death. Symptoms attributed to damage to the nervous system and kidney have been recorded, jaundice has been observed and, in some cases, the liver has been enlarged. Deaths have been reported to have occurred following the ingestion of as little as 27 g of the salt, while other victims have recovered after having taken much larger amounts, up to 120 g. Many copper-containing compounds are used as fungicides. Many Cu salts form highly unstable acetylides. Those formed in basic solutions from (Cu^{+} salts + C_2H_2) are less stable than those formed from Cu^{++} salts. (Cu salts + hydrazine) react strongly, and with nitro-methane are explosive. [*19*]